

Application No. 10/780,438  
 Docket No. 2004U002.US  
 Reply to Office Action Dated April 12, 2005

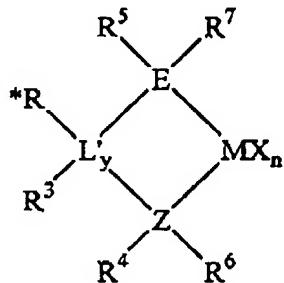
Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

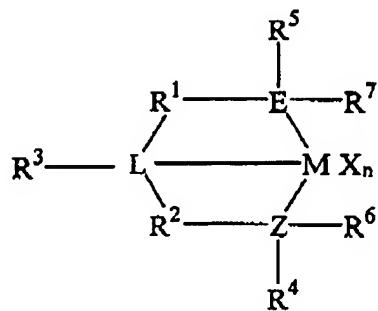
Listing of Claims:

1-10. (Cancelled)

11. (Currently amended) A Group 15 containing metal catalyst compound represented by one of the following formulas:



or

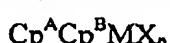


wherein M is a metal;  
 X is a halogenated aryloxy group;  
 y is 0 or 1;

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L is a Group 15 element;  
L' is a Group 15 element;  
E is a Group 15 element;  
Z is a Group 15 element;  
R<sup>1</sup> and R<sup>2</sup> are independently a C<sub>1</sub> to C<sub>20</sub> hydrocarbon group, a heteroatom containing group having up to twenty carbon atoms, silicon, germanium, tin, lead, or phosphorous;  
R<sup>3</sup> is a hydrocarbon group, hydrogen, halogen, or heteroatom containing group;  
R<sup>4</sup> and R<sup>5</sup> are independently an alkyl group, aryl group, substituted aryl group, cyclic alkyl group, substituted cyclic alkyl group, cyclic arylalkyl group, substituted cyclic ~~aryalkyl~~ arylalkyl group or multiple ring system;  
R<sup>6</sup> and R<sup>7</sup> are independently an alkyl group, hydrogen, halogen, heteroatom, or hydrocarbyl group; and  
R<sup>\*</sup> is a Group 14 atom containing group, hydrogen, halogen, or heteroatom containing group.

12. (Original) The catalyst compound of claim 11, wherein X is a perfluorophenoxy group.
13. (Original) The catalyst compound of claim 11, wherein the catalyst compound is supported on a carrier.
14. (Original) The catalyst compound of claim 11, further comprising an activator.
15. (Original) The catalyst compound of claim 11, wherein M is selected from the group consisting of titanium, zirconium, and hafnium.
16. (Withdrawn) The catalyst compound of claim 11, further comprising one or more metallocene catalysts represented by the formula:



wherein: M is a metal atom;

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Cp<sup>A</sup> and Cp<sup>B</sup> are each independently an unsubstituted or substituted cyclic ring group;

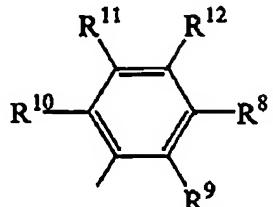
X is a leaving group; and

n is zero or an integer from 1 to 4.

17. (Withdrawn) The catalyst compound of claim 16, wherein Cp<sup>A</sup> and Cp<sup>B</sup> are each independently selected from the group consisting of cyclopentadienyl, indenyl, combinations thereof, and derivatives thereof.
18. (Withdrawn) The catalyst compound of claim 16, wherein Cp<sup>A</sup> is a cyclopentadienyl group and Cp<sup>B</sup> is an indenyl group.
19. (Withdrawn) The catalyst compound of claim 16, wherein Cp<sup>A</sup> is a cyclopentadienyl group and Cp<sup>B</sup> is an indenyl group and the one or more polymerization catalysts comprises a bridging group A, bridging Cp<sup>A</sup> and Cp<sup>B</sup>.
20. (Withdrawn) The catalyst compound of claim 16, wherein Cp<sup>A</sup> is a cyclopentadienyl group and Cp<sup>B</sup> is a cyclopentadienyl group.
21. (Currently amended) The ~~method~~ catalyst compound of claim 11, wherein the halogenated aryloxy group comprises a perfluorophenoxy group.
22. (Currently amended) The ~~method~~ catalyst compound of claim 11, wherein R<sup>1</sup> and R<sup>2</sup> are selected from the group consisting of a C<sub>1</sub> to C<sub>20</sub> hydrocarbon group, a heteroatom containing group, silicon, germanium, tin, lead, and phosphorus.
23. (Currently amended) The ~~method~~ catalyst compound of claim 11, wherein the L or L' is bonded to a hydrogen, a Group 14 atom containing group, a halogen, or a heteroatom containing group, and wherein each of the two Group 15 atoms are bonded to a cyclic group, hydrogen, a halogen, a heteroatom, a hydrocarbyl group, or a heteroatom containing group.

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24. (Currently amended) The method catalyst compound of claim 11, wherein R<sup>4</sup> and R<sup>5</sup> are represented by the formula:



wherein R<sup>8</sup> to R<sup>12</sup> are each independently hydrogen, a C<sub>1</sub> to C<sub>40</sub> alkyl group, a halide, a heteroatom, or a heteroatom containing group containing up to 40 carbon atoms.

- 25-43. (Cancelled)